



# Inorganic Chemistry Seminar Series

Tuesday, October 30, 2018, 12:30 pm

Seaver Science Library, Room 150

*SSC Auditorium next to the library*

## Professor Trevor Hayton

*Department of Chemistry and Biochemistry*

*University of California Santa Barbara*

### ***Synthesis and Characterization of Atomically Precise Copper Nanoclusters***

Atomically precise group 11 nanoclusters (NCs) are currently of intense interest, both for their fundamental properties and for their potential use in a wide variety of applications, including catalysis. As a result, the last 5 years have seen significant progress in the synthesis of well-defined, mono-disperse group 11 nanoclusters. Yet, while many examples of thiol-passivated silver and gold NCs are now known, comparable copper NCs have remained elusive due, in part, to their higher air-sensitivity. In this presentation I will describe the syntheses of several atomically precise Cu NCs, including the organometallic NC,  $[\text{Cu}_{20}(\text{CCPh})_{12}(\text{OAc})_6]$ , which can also be described as  $N^* = 2$  superatom. Additionally, I will discuss their characterization by a variety of techniques, including XANES and EXAFS, as well as our initial efforts to synthesize NCs of Fe, Co, and Ni.

Hosted by Professor Megan Fieser

*The scientific community is invited*

**USC Department of Chemistry**

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